



Patent
Attorney's Docket No. 032740-805

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Patent Application of

Dinesh V. PATEL, et al.

Application No.: 09/738,859

Filed: December 13, 2000

For: NOVEL SUCCINATE COMPOUNDS,
COMPOSITIONS AND METHODS OF
USE AND PREPARATION

Group Art Unit: 1625

Examiner: Unassigned

**INFORMATION DISCLOSURE STATEMENT
TRANSMITTAL LETTER**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed is an Information Disclosure Statement and accompanying form PTO-1449 for the above-identified patent application.

- ☐ No additional fee for submission of an IDS is required.
- ☒ The fee of \$180.00 (126) as set forth in 37 C.F.R. § 1.97(c) is also enclosed.
- ☐ A certification under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ A certification under 37 C.F.R. § 1.97(e), and the fee of \$180.00 (126) as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ Charge \$_____ to Deposit Account No. 02-4800 for the fee due.
- ☒ A check in the amount of \$ 180 is enclosed for the fee due.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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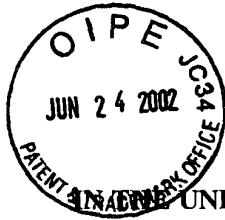
Date: 6-19-02

06/25/2002 SSESHE1 00000044 09738859

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(05/02)



Patent
Attorney's Docket No. 032740-005

UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Patent Application of)

DINESH V. PATEL, et al.)

Group Art Unit: 1625

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INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed.

U.S. Patents

- | | | | |
|----|---------------------------|----------|----------------|
| 1. | U.S. Patent No. 4,052,511 | 10/4/77 | Cushman |
| 2. | U.S. Patent No. 4,303,662 | 12/1/81 | Sprague |
| 3. | U.S. Patent No. 4,311,705 | 1/19/82 | Ondetti et al. |
| 4. | U.S. Patent No. 4,321,383 | 3/23/82 | Sprague |
| 5. | U.S. Patent No. 4,599,361 | 7/8/86 | Dickens et al. |
| 6. | U.S. Patent No. 4,804,676 | 2/14/89 | Inaoka et al. |
| 7. | U.S. Patent No. 5,128,346 | 7/7/92 | Nadzan et al. |
| 8. | U.S. Patent No. 5,256,657 | 10/26/93 | Singh et al. |
| 9. | U.S. Patent No. 5,268,384 | 12/7/93 | Galardy |

10.	U.S. Patent No. 5,447,929	9/5/95	Broadhurst et al.
11.	U.S. Patent No. 5,453,423	9/26/95	Long et al.
12.	U.S. Patent No. 5,552,419	9/3/96	MacPherson et al.
13.	U.S. Patent No. 5,614,625	3/25/97	Broadhurst et al.
14.	U.S. Patent No. 5,643,908	7/1/97	Sugimura et al.
15.	U.S. Patent No. 5,712,300	1/27/98	Jacobsen
16.	U.S. Patent No. 5,869,518	2/9/99	Bedoya Zurita et al.

Foreign Patents

17.	EP 177366	12/30/92	
18.	EP 236872	11/25/92	
19.	EP 274453	7/13/88	
20.	EP 334244	9/27/89	
21.	EP 423943	4/24/91	
22.	EP 489577	6/10/92	
23.	EP 489579	6/10/92	
24.	EP 497192	8/5/92	
25.	EP 574758	12/22/93	
26.	International Publication No. WO 90/05716	5/31/90	
27.	International Publication No. WO 90/05719	5/31/90	
28.	International Publication No. WO 91/02716	3/7/91	
29.	International Publication No. WO 92/13831	8/20/92	
30.	International Publication No. WO 92/22523	12/23/92	

31. International Publication No. WO 93/09090 5/13/93
32. International Publication No. WO 93/09097 5/13/93
33. International Publication No. WO 93/20047 10/14/93
34. International Publication No. WO 93/24449 12/9/93
35. International Publication No. WO 93/24475 12/9/93
36. International Publication No. WO 94/02446 2/3/94
37. International Publication No. WO 94/02447 2/3/94
38. International Publication No. WO 94/21612 9/29/94
39. International Publication No. WO 94/25434 11/10/94
40. International Publication No. WO 94/25435 11/10/94
41. International Publication No. WO 95/33731 12/14/95
42. International Publication No. WO 96/25156 8/22/96
43. International Publication No. WO 96/26918 9/6/96
44. International Publication No. WO 97/30707 8/28/97
45. International Publication No. WO 97/49674 12/31/97
46. International Publication No. WO 98/55449 12/10/98
47. International Publication No. WO 99/02510 1/21/99
48. International Publication No. WO 99/39704 8/12/99

Other References

49. Bord, et al. *Bone* 23(1): 7-12 (1998).
50. Chang, et al. *J. Bacteriol.* 171: 4071-4072 (1989).
51. Cushman, et al. "Specific Inhibitors of Zinc Metallopeptidases." Ch. 5 in Topics in Molecular Pharmacology (Burgen & Roberts, eds.)

52. Durand, et al. *Arch. Biochem. Biophys.* 367(2): 297-302 (1999)
53. Gearing, et al. *Nature* 370: 555-557 (1994).
54. Hao, et al. *Biochemistry.* 38: 4712-4719 (1999).
- 55.
56. Hu, et al. *Bioorg. Med. Chem. Lett.* 8: 2479-2482 (1998).
57. Izquierdo-Martin, et al. *J. Am. Chem. Soc.* 114: 325-331 (1992).
58. Lui, et al. *Endocrinology* 140(11): 5330-5338 (1999).
59. Mazel, D., et al. *EMBO J.* 13(4): 914-923 (1994).
60. McGeehan, et al. *Nature* 370: 558-561 (1994).
61. Meinnel T., et al. *J. Bacteriol.* 176(23): 7387-7390 (1994).
62. Meinnel, et al. *J. Mol. Biol.* 262: 375-386 (1996).
63. Meinnel, et al. *J. Mol. Biol.* 267: 749-791 (1997).
64. Meinnel, et al. *Biochemistry.* 38(14): 4288-4295 (1999).
65. Mohler, et al. *Nature.* 370: 218-220 (1994).
66. Rajagopalan, et al. *J. Am. Chem. Soc.* 119: 12418-12419 (1997).
67. O'Connell, et al. *J. Biomol. NMR* 13(4): 311-324 (1999).
68. Yamagiwa, et al. *Bone* 25(2): 197-203 (1999).

The following references were cited in the International Search Report for the corresponding International Patent Application No. PCT/US00/34128. A copy of the search report is enclosed for the convenience of the Examiner.

69. International Publication No. WO 98/33788 8/6/98

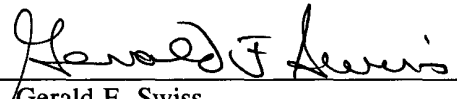
70. International Publication No. WO 99/02510 (cited above)
71. International Publication No. WO 99/39704 (cited above)
72. International Publication No. WO 99/59568 11/25/99
73. International Publication No. WO 00/04892, published February 3, 2000.
74. International Publication No. WO 01/10834 A, published February 15, 2001.
75. EP 177 366 A
76. Ghose, A.K., et al. "Determination of Pharmacophoric Geometry for Collagenase Inhibitors Using a Novel Computational Method and Its Verification Using Molecular Dynamics, NMR, and X-Ray Crystal." *J. Am Chem. Soc.* 117(16): 4671-4682 (1995).
77. Hu, Y-J, et al. "H-phosphonate derivatives as novel peptide defomyrase inhibitors." *Bioorganic and Medicinal Chemistry Letters*. GB, Oxford) 8(18): 2479-2482 (1998).(cited above)
78. Inaoka, Y., et al. "Propioxatins A and B, New Enkephalinase B Inhibitors. IV. Characterization of the Active Site of the Enzyme Using Synthetic Propioxatin Analogues." *J. Biochem.* 104(5): 706-711 (1988).
79. Lelievre, Y., et al. "Low molecular weight, sequence based, collagenase inhibitors selectively block the interaction between collagenase and TIMP (tissue inhibitor of metalloproteinases." *Chem. Abstracts*, Vol. 114, No. 11, March 18, 1991.
80. Murao, S., et al. "Propioxatin A as Serratia protease inhibitors for treatment of corneal infection." *Chem. Abstracts* Vol. 126, No. 13, March 25, 1997.
81. Tamaki, K., et al. "Synthesis and structure-active relationships of gelatinase inhibitors derived from matlystatins." *Chemical and Pharmaceutical Bulletin*. 43(11): 1883-1893 (1995).
82. Vencill, C.F., et al. "Clostridium histolyticum collagenase: development of new thio ester, fluorogenic, and new depsipeptide substrates and new inhibitors." *Biochemistry*. 24(13): 3149-3157 (1985).

A Fee in the amount of \$180.00 is enclosed in conformance with 37 C.F.R. § 1.97(c).

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

Respectfully submitted,

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